

10/513699

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* * * * * Welcome to STN International * * * * *

NEWS 1 Web Page for STN Seminar Schedule - N. America
NEWS 2 AUG 06 CAS REGISTRY enhanced with new experimental property tags
NEWS 3 AUG 06 FSTA enhanced with new thesaurus edition
NEWS 4 AUG 13 CA/CAPLUS enhanced with additional kind codes for granted
patents
NEWS 5 AUG 20 CA/CAPLUS enhanced with CAS indexing in pre-1907 records
NEWS 6 AUG 27 Full-text patent databases enhanced with predefined
patent family display formats from INPADOCDB
NEWS 7 AUG 27 USPATOLD now available on STN
NEWS 8 AUG 28 CAS REGISTRY enhanced with additional experimental
spectral property data
NEWS 9 SEP 07 STN AnaVist, Version 2.0, now available with Derwent
World Patents Index
NEWS 10 SEP 13 FORIS renamed to SOFIS
NEWS 11 SEP 13 INPADOCDB enhanced with monthly SDI frequency
NEWS 12 SEP 17 CA/CAPLUS enhanced with printed CA page images from
1967-1998
NEWS 13 SEP 17 CAPLUS coverage extended to include traditional medicine
patents
NEWS 14 SEP 24 EMBASE, EMBAL, and LEMBASE reloaded with enhancements
NEWS 15 OCT 02 CA/CAPLUS enhanced with pre-1907 records from Chemisches
Zentralblatt
NEWS 16 OCT 19 BEILSTEIN updated with new compounds
NEWS 17 NOV 15 Derwent Indian patent publication number format enhanced
NEWS 18 NOV 19 WPIX enhanced with XML display format
NEWS 19 NOV 30 ICSD reloaded with enhancements
NEWS 20 DEC 04 LINPADOCDB now available on STN
NEWS 21 DEC 14 BEILSTEIN pricing structure to change
NEWS 22 DEC 17 USPATOLD added to additional database clusters
NEWS 23 DEC 17 IMSDRUGCONF removed from database clusters and STN
NEWS 24 DEC 17 DGENE now includes more than 10 million sequences
NEWS 25 DEC 17 TOXCENTER enhanced with 2008 MeSH vocabulary in
MEDLINE segment
NEWS 26 DEC 17 MEDLINE and LMEADLINE updated with 2008 MeSH vocabulary
NEWS 27 DEC 17 CA/CAPLUS enhanced with new custom IPC display formats
NEWS 28 DEC 17 STN Viewer enhanced with full-text patent content
from USPATOLD
NEWS 29 JAN 02 STN pricing information for 2008 now available
NEWS 30 JAN 16 CAS patent coverage enhanced to include exemplified
prophetic substances
NEWS 31 JAN 28 USPATFULL, USPAT2, and USPATOLD enhanced with new

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custom IPC display formats
 NEWS 32 JAN 28 MARPAT searching enhanced
 NEWS 33 JAN 28 USGENE now provides USPTO sequence data within 3 days
 of publication
 NEWS 34 JAN 28 TOXCENTER enhanced with reloaded MEDLINE segment
 NEWS 35 JAN 28 MEDLINE and LMEDELINE reloaded with enhancements
 NEWS EXPRESS 19 SEPTEMBER 2007: CURRENT WINDOWS VERSION IS V8.2,
 CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
 AND CURRENT DISCOVER FILE IS DATED 19 SEPTEMBER 2007.
 NEWS HOURS STN Operating Hours Plus Help Desk Availability
 NEWS LOGIN Welcome Banner and News Items
 NEWS IPC8 For general information regarding STN implementation of IPC 8

Enter NEWS followed by the item number or name to see news on that
 specific topic.

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***** STN Columbus *****

FILE 'HOME' ENTERED AT 11:52:01 ON 01 FEB 2008

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=> file reg
COST IN U.S. DOLLARS                SINCE FILE      TOTAL
                                     ENTRY      SESSION
FULL ESTIMATED COST                0.21          0.21
```

FILE 'REGISTRY' ENTERED AT 11:52:06 ON 01 FEB 2008
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Property values tagged with IC are from the ZIC/VINITI data file
 provided by InfoChem.

STRUCTURE FILE UPDATES: 31 JAN 2008 HIGHEST RN 1001228-41-6
 DICTIONARY FILE UPDATES: 31 JAN 2008 HIGHEST RN 1001228-41-6

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 29, 2007

Please note that search-term pricing does apply when
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REGISTRY includes numerically searchable data for experimental and
 predicted properties as well as tags indicating availability of
 experimental property data in the original document. For information
 on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stdoc/properties.html>

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=> file casreact
COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
0.46	0.67

FULL ESTIMATED COST

FILE 'CASREACT' ENTERED AT 11:52:10 ON 01 FEB 2008
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FILE CONTENT:1840 - 26 Jan 2008 VOL 148 ISS 5

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```
*****
*
*   CASREACT now has more than 13.8 million reactions
*
*****
```

Some CASREACT records are derived from the ZIC/VINITI database (1974-1999) provided by InfoChem, INPI data prior to 1986, and Biotransformations database compiled under the direction of Professor Dr. Klaus Kieslich.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=>

Uploading C:\Program Files\Stnexp\Queries\10524517form3rxn.str



chain nodes :

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```
7 8 9 11 12 14 15 18 19 20 21
ring nodes :
1 2 3 4 5 6 25 26 27 28 29 30
ring/chain nodes :
16 22
chain bonds :
1-7 2-15 3-14 5-11 6-12 7-8 7-9 9-16 18-19 18-22 19-20 19-21
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6 25-26 25-30 26-27 27-28 28-29 29-30
exact/norm bonds :
1-2 1-6 1-7 2-3 2-15 3-4 3-14 4-5 5-6 5-11 6-12 7-8 7-9 9-16 18-19
18-22 19-21 25-26 25-30 26-27 27-28 28-29 29-30
exact bonds :
19-20
isolated ring systems :
containing 1 :
```

G1:C,H,O,X

```
Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:CLASS 8:CLASS 9:CLASS 11:CLASS
12:CLASS 14:CLASS 15:CLASS 16:CLASS 18:CLASS 19:CLASS 20:CLASS 21:CLASS
22:CLASS 25:Atom 26:Atom 27:Atom 28:Atom 29:Atom 30:Atom
fragments assigned reactant role:
containing 18
fragments assigned reagent role:
containing 25
fragments assigned product role:
containing 1
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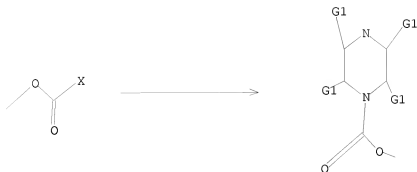
L1 STRUCTURE UPLOADED

=> d l1

L1 HAS NO ANSWERS

L1 STR

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G1 C,H,O,X

Structure attributes must be viewed using STN Express query preparation.

=> s l1 full

FULL SEARCH INITIATED 11:52:35 FILE 'CASREACT'

SCREENING COMPLETE - 113 REACTIONS TO VERIFY FROM

11 DOCUMENTS

100.0% DONE 113 VERIFIED

9 HIT RXNS

2 DOCS

SEARCH TIME: 00.00.01

L2 2 SEA SSS FUL L1 (9 REACTIONS)

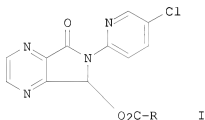
=> d ibib abs hit

L2 ANSWER 1 OF 2 CASREACT COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 143:211927 CASREACT
 TITLE: Preparation of optically active carbonate intermediates in synthesis of (+)-zopiclone
 INVENTOR(S): Bayod Jasanada, Miguel; Sanchez Pedregal, Victor M.; Gotor Santamaria, Vicente; Brieva Collado, M. Rosario; Fernandez Solares, Laura; Diaz Sierra, Monica; Guisan Seijas, Jose Manuel; Paloma Carmona, Jose Miguel; Fernandez-Lafuente, Roberto
 PATENT ASSIGNEE(S): Universidad de Oviedo, Spain; Astur Pharma, S.A.
 SOURCE: Span., 12 pp.
 CODEN: SPXXAD
 DOCUMENT TYPE: Patent
 LANGUAGE: Spanish
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
ES 2203319	A1	20040401	ES 2002-771	20020403
ES 2203319	B1	20050301		
US 6969767	B1	20051129	US 2003-405998	20030402
			ES 2002-771	20020403

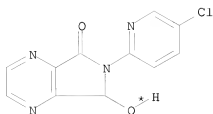
PRIORITY APPLN. INFO.:
 OTHER SOURCE(S): MARPAT 143:211927
 GI



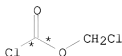
AB The invention relates to the synthesis of carbonates I (R = isopropenyloxy, p-nitrophenoxy, chloromethoxy, 1-chloro-, 2-chloro-, 2,2,2-trichloro- or 1,1-dimethyl-2,2,2-trichloroethoxy), their resolution, and use in the synthesis of (+)-zopiclone [(S)-I; R = 4-methyl-1-piperazinyl]. Thus, (S)-I (R = ClCH₂O) was prepared by esterification of 6-(5-chloro-2-pyridinyl)-5-hydroxy-7-oxo-5,6-dihydropyrrolo[3,4-b]pyrazine with p-nitrophenyl chloroformate and resolution using immobilized lipase B from *Candida antarctica*. Treatment of the product with N-methylpiperazine afforded (+)-zopiclone.

RX(14) OF 14 COMPOSED OF RX(7), RX(9), RX(8)
 RX(14) A + P + R ==> T

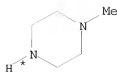
10/513699



A

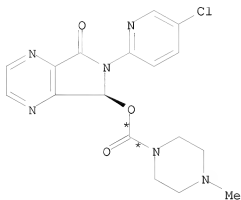


P



R

3
STEPS
→



T

YIELD 90%

- RX(7) RCT A 43200-81-3, P 22128-62-7
RGT D 110-86-1 Pyridine
PRO Q 508169-18-4
SOL 75-09-2 CH₂Cl₂
CON SUBSTAGE(1) 0 deg C
SUBSTAGE(2) 17 hours, room temperature
- RX(9) RCT Q 508169-18-4
RGT V 290-37-9 Pyrazine
PRO S 508169-20-8
CAT 9001-62-1 Lipase
SOL 7732-18-5 Water, 108-88-3 PhMe
CON 100 hours, 60 deg C, pH 7
NTE biotransformation, enzymic(immobilized lipase B from *Candida antarctica* used), buffered solution(phosphate), stereoselective
- RX(8) RCT R 109-01-3, S 508169-20-8

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PRO T 138729-47-2
SOL 67-64-1 Me2CO
CON SUBSTAGE(1) 0 deg C
SUBSTAGE(2) 2 hours, 0 deg C -> 15 deg C

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=> d 12 ibib abs hit 2

<12/04/2007>

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L2 ANSWER 2 OF 2 CASREACT COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 139:307801 CASREACT
 TITLE: Stereoselective alkylation of chiral
 2-methyl-4-protected piperazines

INVENTOR(S): Wu, Wenxue; Liao, Hongbiao; Tsai, David J.; Andrews,
 David R.; Gala, Dinesh; Lee, Gary M.; Schwartz, Martin
 Lawrence; McAllister, Timothy L.; Fu, Xiaoyong;
 PATENT ASSIGNEE(S): Maloney, Donal; Thiruvengadam, T. K.; Tann, Chou-Hang
 Schering Corporation, USA
 SOURCE: PCT Int. Appl., 39 pp.
 CODEN: PIXXD2

DOCUMENT TYPE: Patent
 LANGUAGE: English

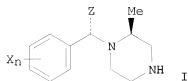
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003084942	A2	20031016	WO 2003-US9275	20030327
WO 2003084942	A3	20040506		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, HR, HU, ID, IL, IN, IS, JP, KG, KR, KZ, LC, LK, LR, LT, LU, LV, MA, MD, MG, MK, MN, MX, MZ, NI, NO, NZ, PH, PL, PT, RO, RU, SC, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UZ, VC, VN, YU, ZA, ZM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
CA 2480481	A1	20031016	CA 2003-2480481	20030327
AU 2003239128	A1	20031020	AU 2003-239128	20030327
US 2003208074	A1	20031106	US 2003-400429	20030327
US 6872826	B2	20050329		
EP 1490346	A2	20041229	EP 2003-733842	20030327
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK			
CN 1642930	A	20050720	CN 2003-807388	20030327
JP 2005526826	T	20050908	JP 2003-582139	20030327
CN 101092401	A	20071226	CN 2007-10140725	20030327
ZA 2004006469	A	20050920	ZA 2004-6469	20040813
MX 2004PA09414	A	20050125	MX 2004-PA9414	20040928
US 2005171120	A1	20050804	US 2005-89858	20050325
PRIORITY APPLN. INFO.:			US 2002-368707P	20020329
			CN 2003-807388	20030327
			US 2003-400429	20030327
			WO 2003-US9275	20030327

OTHER SOURCE(S): MARPAT 139:307801

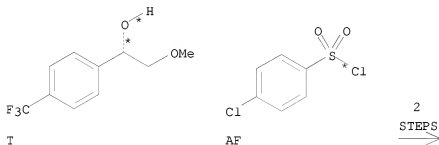
GI



AB Chiral 1-substituted-2-methylpiperazines I [X = alkyl, halogen, haloalkyl, alkoxy, aryl, aryloxy, heteroaryl; n = 1-5; Z = alkyl, alkoxyalkyl, aryl, heteroaryl, heteroaralkyl, aralkyl] are prepared by treating 4-protected (S)-2-methylpiperazine with (S)-XnC₆H₄CHZ₂O₃sY [Y = alkyl, haloalkyl, (un)substituted aryl] and deblocking. Thus, 4-F₃CC₆H₄COCH₂OMe was reduced to (S)-4-F₃CC₆H₄CH(OH)CH₂OMe with a chiral borane and converted to (S)-4-F₃CC₆H₄CH(CH₂OMe)O₃SC₆H₄Cl-4 which was treated with (S)-4-benzyloxycarbonyl-2-methylpiperazine and deblocked to give I [X = 4-F₃C, Z = CH₂OMe].

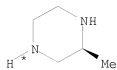
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AND REACTION SEQUENCE RX(2), RX(13)

...T + AF ==> AG...
...A + F + AG ==> AM

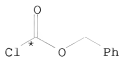


START NEXT REACTION SEQUENCE

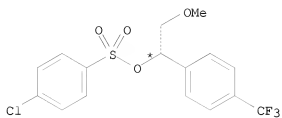
10/513699



A

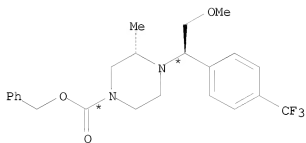


F



AG

2
STEPS
→



AM

YIELD 85%

RX(10) RCT T 612493-93-3, AF 98-60-2

STAGE(1)

RGT AH 280-57-9 Triethylenediamine

SOL 108-88-3 PhMe

CON SUBSTAGE(1) 1 hour, -5 - -15 deg C

SUBSTAGE(2) 1 hour, -5 - -15 deg C

STAGE(2)

RGT J 7732-18-5 Water

PRO AG 612493-96-6

RX(2) RCT A 74879-18-8, F 501-53-1

RGT H 64-19-7 AcOH

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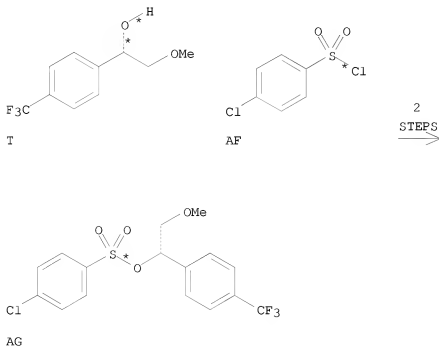
10/513699

PRO G 612493-87-5
SOL 67-56-1 MeOH, 7732-18-5 Water
CON SUBSTAGE(1) 90 minutes, 0 - 10 deg C
SUBSTAGE(2) 1 hour, 0 - 10 deg C
NTE regioselective

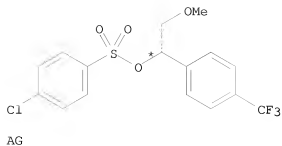
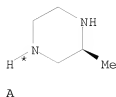
RX(13) RCT G 612493-87-5, AG 612493-96-6
RGT D 584-08-7 K2CO3
PRO AM 612494-01-6
SOL 108-88-3 PhMe, 75-05-8 MeCN
CON SUBSTAGE(1) room temperature
SUBSTAGE(2) 30 hours, 80 - 85 deg C
NTE stereoselective, optimization study

RX(49) OF 104 COMPOSED OF REACTION SEQUENCE RX(10), RX(17)
AND REACTION SEQUENCE RX(5), RX(17)

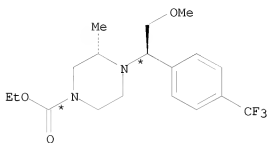
...T + AF ==> AG...
...A + O + AG ==> AR



START NEXT REACTION SEQUENCE



2
STEPS
→



AR
YIELD 88%

RX(10) RCT T 612493-93-3, AF 98-60-2

STAGE(1)

RGT AH 280-57-9 Triethylenediamine
SOL 108-88-3 PhMe
CON SUBSTAGE(1) 1 hour, -5 - -15 deg C
SUBSTAGE(2) 1 hour, -5 - -15 deg C

STAGE(2)

RGT J 7732-18-5 Water

PRO AG 612493-96-6

RX(5) RCT A 74879-18-8, O 541-41-3
RGT H 64-19-7 AcOH
PRO P 612493-91-1
SOL 7732-18-5 Water, 67-56-1 MeOH
CON SUBSTAGE(1) 90 minutes, 0 - 10 deg C
SUBSTAGE(2) 1 hour, 0 - 10 deg C
NTE regioselective

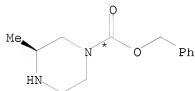
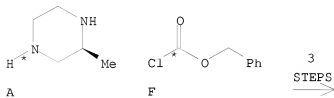
RX(17) RCT P 612493-91-1, AG 612493-96-6
RGT D 584-08-7 K2CO3
PRO AR 612494-06-1
SOL 108-88-3 PhMe, 75-05-8 MeCN
CON SUBSTAGE(1) room temperature

10/513699

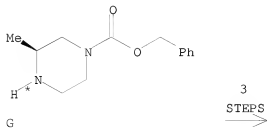
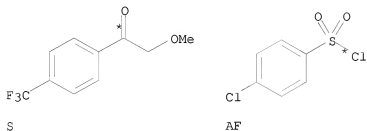
SUBSTAGE(2) 20 hours, 80 - 85 deg C
NTE stereoselective

RX(73) OF 104 COMPOSED OF REACTION SEQUENCE RX(2), RX(13)
AND REACTION SEQUENCE RX(7), RX(10), RX(13)

...A + F ==> G...
...S + AF + G ==> AM



START NEXT REACTION SEQUENCE



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SUBSTAGE(2) 1 hour, -5 - -15 deg C

STAGE(2)

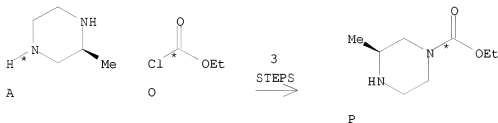
RGT J 7732-18-5 Water

PRO AG 612493-96-6

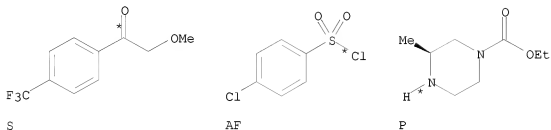
RX(13) RCT G 612493-87-5, AG 612493-96-6
RGT D 584-08-7 K2CO3
PRO AM 612494-01-6
SOL 108-88-3 PhMe, 75-05-8 MeCN
CON SUBSTAGE(1) room temperature
SUBSTAGE(2) 30 hours, 80 - 85 deg C
NTE stereoselective, optimization study

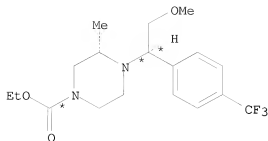
RX(76) OF 104 COMPOSED OF REACTION SEQUENCE RX(5), RX(17)
AND REACTION SEQUENCE RX(7), RX(10), RX(17)

...A + O ==> P...
...S + AF + P ==> AR



START NEXT REACTION SEQUENCE





AR
YIELD 88%

RX(5) RCT A 74879-18-8, O 541-41-3
RGT H 64-19-7 AcOH
PRO P 612493-91-1
SOL 7732-18-5 Water, 67-56-1 MeOH
CON SUBSTAGE(1) 90 minutes, 0 - 10 deg C
SUBSTAGE(2) 1 hour, 0 - 10 deg C
NTE regioselective

RX(7) RCT S 26771-69-7

STAGE(1)

RGT U 75-75-2 MeSO3H, V 14044-65-6 BH3-THF
SOL 109-99-9 THF, 108-88-3 PhMe
CON SUBSTAGE(1) room temperature
SUBSTAGE(2) 10 minutes, room temperature

STAGE(2)

RGT W 112022-81-8 1H,3H-Pyrrolo[1,2-c][1,3,2]oxazaborole,
tetrahydro-1-methyl-3,3-diphenyl-, (3aS)-
SOL 108-88-3 PhMe
CON SUBSTAGE(1) room temperature
SUBSTAGE(2) 30 minutes, room temperature

STAGE(3)

SOL 108-88-3 PhMe
CON SUBSTAGE(1) 1 hour, 20 - 30 deg C
SUBSTAGE(2) 1 hour, room temperature

STAGE(4)

SOL 67-56-1 MeOH
CON 10 - 20 deg C

PRO T 612493-93-3
NTE stereoselective

RX(10) RCT T 612493-93-3, AF 98-60-2

STAGE(1)

RGT AH 280-57-9 Triethylenediamine
SOL 108-88-3 PhMe

10/513699

CON SUBSTAGE(1) 1 hour, -5 - -15 deg C
SUBSTAGE(2) 1 hour, -5 - -15 deg C

STAGE(2)

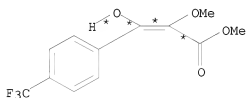
RGT J 7732-18-5 Water

PRO AG 612493-96-6

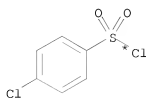
RX(17) RCT P 612493-91-1, AG 612493-96-6
RGT D 584-08-7 K2CO3
PRO AR 612494-06-1
SOL 108-88-3 PhMe, 75-05-8 MeCN
CON SUBSTAGE(1) room temperature
SUBSTAGE(2) 20 hours, 80 - 85 deg C
NTE stereoselective

RX(82) OF 104 COMPOSED OF REACTION SEQUENCE RX(9), RX(7), RX(10), RX(13)
AND REACTION SEQUENCE RX(2), RX(13)

...AA + AF ==> AG...
...A + F + AG ==> AM

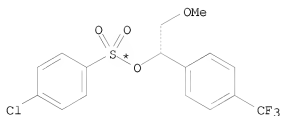


AA



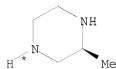
AF

2
STEPS
→

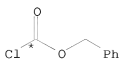


AG

START NEXT REACTION SEQUENCE



A

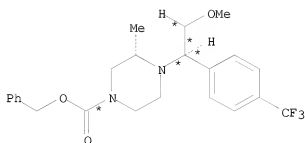
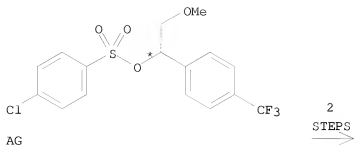


F

<12/04/2007>

Erich Leese

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AM
YIELD 85%

RX(9) RCT AA 612493-95-5
RGT AC 7664-93-9 H₂SO₄
PRO S 26771-69-7
SOL 67-56-1 MeOH, 7732-18-5 Water

RX(7) RCT S 26771-69-7

STAGE(1)

RGT U 75-75-2 MeSO₃H, V 14044-65-6 BH₃-THF
SOL 109-99-9 THF, 108-88-3 PhMe
CON SUBSTAGE(1) room temperature
SUBSTAGE(2) 10 minutes, room temperature

STAGE(2)

RGT W 112022-81-8 1H,3H-Pyrrolo[1,2-c][1,3,2]oxazaborole,
tetrahydro-1-methyl-3,3-diphenyl-, (3aS)-
SOL 108-88-3 PhMe
CON SUBSTAGE(1) room temperature
SUBSTAGE(2) 30 minutes, room temperature

STAGE(3)

SOL 108-88-3 PhMe
CON SUBSTAGE(1) 1 hour, 20 - 30 deg C
SUBSTAGE(2) 1 hour, room temperature

STAGE(4)

SOL 67-56-1 MeOH
CON 10 - 20 deg C

PRO T 612493-93-3
NTE stereoselective

RX(10) RCT T 612493-93-3, AF 98-60-2

STAGE(1)

RGT AH 280-57-9 Triethylenediamine
SOL 108-88-3 PhMe
CON SUBSTAGE(1) 1 hour, -5 - -15 deg C
SUBSTAGE(2) 1 hour, -5 - -15 deg C

STAGE(2)

RGT J 7732-18-5 Water

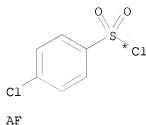
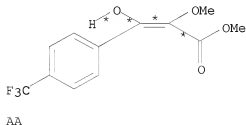
PRO AG 612493-96-6

RX(2) RCT A 74879-18-8, F 501-53-1
RGT H 64-19-7 AcOH
PRO G 612493-87-5
SOL 67-56-1 MeOH, 7732-18-5 Water
CON SUBSTAGE(1) 90 minutes, 0 - 10 deg C
SUBSTAGE(2) 1 hour, 0 - 10 deg C
NTE regioselective

RX(13) RCT G 612493-87-5, AG 612493-96-6
RGT D 584-08-7 K2CO3
PRO AM 612494-01-6
SOL 108-88-3 PhMe, 75-05-8 MeCN
CON SUBSTAGE(1) room temperature
SUBSTAGE(2) 30 hours, 80 - 85 deg C
NTE stereoselective, optimization study

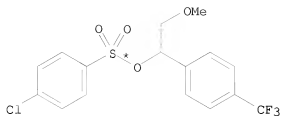
RX(87) OF 104 COMPOSED OF REACTION SEQUENCE RX(9), RX(7), RX(10), RX(17)
AND REACTION SEQUENCE RX(5), RX(17)

...AA + AF ==> AG...
...A + O + AG ==> AR



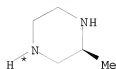
2
STEPS
→

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AG

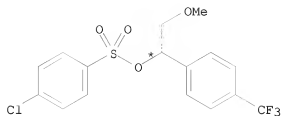
START NEXT REACTION SEQUENCE



A

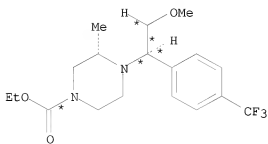


O



AG

2
STEPS
→



AR
YIELD 88%

RX(9) RCT AA 612493-95-5
RGT AC 7664-93-9 H2SO4
PRO S 26771-69-7
SOL 67-56-1 MeOH, 7732-18-5 Water

RX(7) RCT S 26771-69-7

STAGE(1)

RGT U 75-75-2 MeSO3H, V 14044-65-6 BH3-THF
SOL 109-99-9 THF, 108-88-3 PhMe
CON SUBSTAGE(1) room temperature
SUBSTAGE(2) 10 minutes, room temperature

<12/04/2007>

Erich Leese

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STAGE(2)
  RGT  W 112022-81-8 1H,3H-Pyrrolo[1,2-c][1,3,2]oxazaborole,
        tetrahydro-1-methyl-3,3-diphenyl-, (3aS)-
  SOL  108-88-3 PhMe
  CON  SUBSTAGE(1) room temperature
        SUBSTAGE(2) 30 minutes, room temperature

STAGE(3)
  SOL  108-88-3 PhMe
  CON  SUBSTAGE(1) 1 hour, 20 - 30 deg C
        SUBSTAGE(2) 1 hour, room temperature

STAGE(4)
  SOL  67-56-1 MeOH
  CON  10 - 20 deg C

PRO   T 612493-93-3
NTE   stereoselective

RX(10)  RCT  T 612493-93-3, AF 98-60-2

        STAGE(1)
          RGT  AH 280-57-9 Triethylenediamine
          SOL  108-88-3 PhMe
          CON  SUBSTAGE(1) 1 hour, -5 - -15 deg C
                SUBSTAGE(2) 1 hour, -5 - -15 deg C

        STAGE(2)
          RGT  J 7732-18-5 Water

PRO   AG 612493-96-6

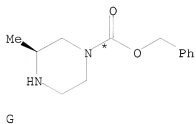
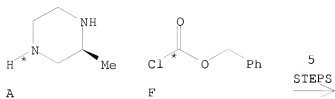
RX(5)  RCT  A 74879-18-8, O 541-41-3
        RGT  H 64-19-7 AcOH
        PRO  P 612493-91-1
        SOL  7732-18-5 Water, 67-56-1 MeOH
        CON  SUBSTAGE(1) 90 minutes, 0 - 10 deg C
                SUBSTAGE(2) 1 hour, 0 - 10 deg C
        NTE  regioselective

RX(17) RCT  P 612493-91-1, AG 612493-96-6
        RGT  D 584-08-7 K2CO3
        PRO  AR 612494-06-1
        SOL  108-88-3 PhMe, 75-05-8 MeCN
        CON  SUBSTAGE(1) room temperature
                SUBSTAGE(2) 20 hours, 80 - 85 deg C
        NTE  stereoselective

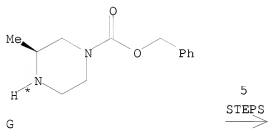
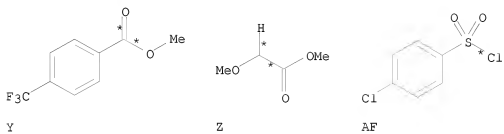
RX(91) OF 104 COMPOSED OF REACTION SEQUENCE RX(2), RX(13)
        AND REACTION SEQUENCE RX(8), RX(9), RX(7), RX(10), RX(13)
...A   +   F   ==>   G...
...Y   +   Z   +   AF   +   G   ==>   AM

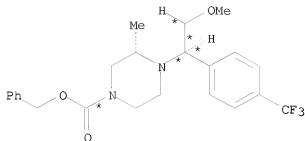
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START NEXT REACTION SEQUENCE





AM
YIELD 85%

RX(2) RCT A 74879-18-8, F 501-53-1
RGT H 64-19-7 AcOH
PRO G 612493-87-5
SOL 67-56-1 MeOH, 7732-18-5 Water
CON SUBSTAGE(1) 90 minutes, 0 - 10 deg C
SUBSTAGE(2) 1 hour, 0 - 10 deg C
NTE regioselective

RX(8) RCT Y 2967-66-0, Z 6290-49-9

STAGE(1)

RGT AB 124-41-4 NaOMe
SOL 68-12-2 DMF
CON SUBSTAGE(1) 5 hours, -10 deg C
SUBSTAGE(2) 21 hours, -10 deg C

STAGE(2)

RGT AC 7664-93-9 H2SO4
SOL 7732-18-5 Water, 1634-04-4 t-BuOMe
CON -8.5 deg C

PRO AA 612493-95-5
NTE combined yield of 82%

RX(9) RCT AA 612493-95-5
RGT AC 7664-93-9 H2SO4
PRO S 26771-69-7
SOL 67-56-1 MeOH, 7732-18-5 Water

RX(7) RCT S 26771-69-7

STAGE(1)

RGT U 75-75-2 MeSO3H, V 14044-65-6 BH3-THF
SOL 109-99-9 THF, 108-88-3 PhMe
CON SUBSTAGE(1) room temperature
SUBSTAGE(2) 10 minutes, room temperature

STAGE(2)

RGT W 112022-81-8 1H,3H-Pyrrolo[1,2-c][1,3,2]oxazaborole,
tetrahydro-1-methyl-3,3-diphenyl-, (3aS)-

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SOL 108-88-3 PhMe
CON SUBSTAGE(1) room temperature
SUBSTAGE(2) 30 minutes, room temperature

STAGE(3)

SOL 108-88-3 PhMe
CON SUBSTAGE(1) 1 hour, 20 - 30 deg C
SUBSTAGE(2) 1 hour, room temperature

STAGE(4)

SOL 67-56-1 MeOH
CON 10 - 20 deg C

PRO T 612493-93-3
NTE stereoselective

RX(10) RCT T 612493-93-3, AF 98-60-2

STAGE(1)

RGT AH 280-57-9 Triethylenediamine
SOL 108-88-3 PhMe
CON SUBSTAGE(1) 1 hour, -5 - -15 deg C
SUBSTAGE(2) 1 hour, -5 - -15 deg C

STAGE(2)

RGT J 7732-18-5 Water

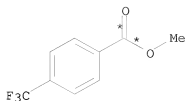
PRO AG 612493-96-6

RX(13) RCT G 612493-87-5, AG 612493-96-6
RGT D 584-08-7 K2CO3
PRO AM 612494-01-6
SOL 108-88-3 PhMe, 75-05-8 MeCN
CON SUBSTAGE(1) room temperature
SUBSTAGE(2) 30 hours, 80 - 85 deg C
NTE stereoselective, optimization study

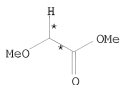
RX(94) OF 104 COMPOSED OF REACTION SEQUENCE RX(5), RX(17)
AND REACTION SEQUENCE RX(8), RX(9), RX(7), RX(10), RX(17)
...A + O ==> P...
...Y + Z + AF + P ==> AR



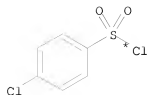
START NEXT REACTION SEQUENCE



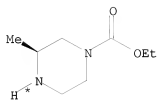
Y



Z

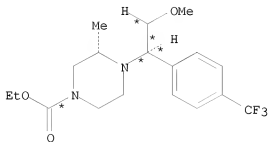


AF



P

5
STEPS
→



AR
YIELD 88%

RX(5) RCT A 74879-18-8, O 541-41-3
RGT H 64-19-7 AcOH
PRO P 612493-91-1
SOL 7732-18-5 Water, 67-56-1 MeOH
CON SUBSTAGE(1) 90 minutes, 0 - 10 deg C
SUBSTAGE(2) 1 hour, 0 - 10 deg C
NTE regioselective

RX(8) RCT Y 2967-66-0, Z 6290-49-9

STAGE(1)

RGT AB 124-41-4 NaOMe
SOL 68-12-2 DMF
CON SUBSTAGE(1) 5 hours, -10 deg C
SUBSTAGE(2) 21 hours, -10 deg C

STAGE(2)

RGT AC 7664-93-9 H2SO4
SOL 7732-18-5 Water, 1634-04-4 t-BuOMe
CON -8.5 deg C

PRO AA 612493-95-5
NTE combined yield of 82%

RX(9) RCT AA 612493-95-5
RGT AC 7664-93-9 H2SO4
PRO S 26771-69-7

SOL 67-56-1 MeOH, 7732-18-5 Water

RX(7) RCT S 26771-69-7

STAGE(1)

RGT U 75-75-2 MeSO₃H, V 14044-65-6 BH₃-THF
SOL 109-99-9 THF, 108-88-3 PhMe
CON SUBSTAGE(1) room temperature
SUBSTAGE(2) 10 minutes, room temperature

STAGE(2)

RGT W 112022-81-8 1H,3H-Pyrrolo[1,2-c][1,3,2]oxazaborole,
tetrahydro-1-methyl-3,3-diphenyl-, (3aS)-
SOL 108-88-3 PhMe
CON SUBSTAGE(1) room temperature
SUBSTAGE(2) 30 minutes, room temperature

STAGE(3)

SOL 108-88-3 PhMe
CON SUBSTAGE(1) 1 hour, 20 - 30 deg C
SUBSTAGE(2) 1 hour, room temperature

STAGE(4)

SOL 67-56-1 MeOH
CON 10 - 20 deg C

PRO T 612493-93-3
NTE stereoselective

RX(10) RCT T 612493-93-3, AF 98-60-2

STAGE(1)

RGT AH 280-57-9 Triethylenediamine
SOL 108-88-3 PhMe
CON SUBSTAGE(1) 1 hour, -5 - -15 deg C
SUBSTAGE(2) 1 hour, -5 - -15 deg C

STAGE(2)

RGT J 7732-18-5 Water

PRO AG 612493-96-6

RX(17) RCT P 612493-91-1, AG 612493-96-6
RGT D 584-08-7 K₂CO₃
PRO AR 612494-06-1
SOL 108-88-3 PhMe, 75-05-8 MeCN
CON SUBSTAGE(1) room temperature
SUBSTAGE(2) 20 hours, 80 - 85 deg C
NTE stereoselective

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=> d his

(FILE 'HOME' ENTERED AT 11:52:01 ON 01 FEB 2008)

FILE 'REGISTRY' ENTERED AT 11:52:06 ON 01 FEB 2008

FILE 'CASREACT' ENTERED AT 11:52:10 ON 01 FEB 2008

L1 STRUCTURE UPLOADED

L2 2 S L1 FULL

=> log y

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

132.70

133.37

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE

TOTAL

ENTRY

SESSION

CA SUBSCRIBER PRICE

-1.50

-1.50

STN INTERNATIONAL LOGOFF AT 11:53:55 ON 01 FEB 2008